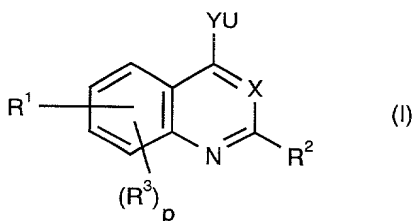


Claims

1. A method of treating a susceptible cancer in a human or animal subject mammal, comprising administering to said subject an effective amount of a compound of formula (I):



or a salt or solvate thereof;

wherein X is N or CH;

Y is a group W(CH<sub>2</sub>), (CH<sub>2</sub>)W, or W, in which W is O, S(O)<sub>m</sub> wherein m is 0, 1 or 2, or NR<sup>a</sup> wherein R<sup>a</sup> is hydrogen or a C<sub>1-8</sub> alkyl group;

R<sup>1</sup> represents a 5- or 6-membered heterocyclic ring containing 1 to 4 heteroatoms selected from N, O or S(O)<sub>m</sub>, wherein m is as defined above, with the provisos that the ring does not have two adjacent O or S(O)<sub>m</sub> atoms and that where the ring has only N as heteroatom(s) the ring is C-linked to the quinazoline or quinoline ring, R<sup>1</sup> being optionally substituted by one or more R<sup>3</sup> groups;

each R<sup>3</sup> is independently selected from the group consisting of amino, hydrogen, halogen, hydroxy, nitro, carboxy, formyl, cyano, trifluoromethyl, trifluoromethoxy, carbamoyl, ureido, guanidino, C<sub>1-8</sub> alkyl, C<sub>1-8</sub> alkoxy, C<sub>3-8</sub> cycloalkoxyl, C<sub>4-8</sub> alkylcycloalkoxy, C<sub>1-8</sub> alkylcarbonyl, C<sub>1-8</sub> alkoxycarbonyl, N-C<sub>1-4</sub> alkylcarbamoyl, N,N-di-[C<sub>1-4</sub> alkyl]carbamoyl, hydroxyamino, C<sub>1-4</sub> alkoxyamino, C<sub>2-4</sub> alkanoyloxyamino, C<sub>1-4</sub> alkylamino, di[C<sub>1-4</sub> alkyl]amino, di-[C<sub>1-4</sub> alkyl]amino-C<sub>1-4</sub> alkylene-(C<sub>1-4</sub> alkyl)amino, C<sub>1-4</sub> alkylamino- C<sub>1-4</sub>

alkylene-(C<sub>1-4</sub> alkyl)amino, hydroxy-C<sub>1-4</sub> alkylene-(C<sub>1-4</sub> alkyl)amino, phenyl, phenoxy, 4-pyridon-1-yl, pyrrolidin-1-yl, imidazol-1-yl, piperidino, morpholino, thiomorpholino, thiomorpholino-1-oxide, thiomorpholino-1,1-dioxide, piperazin-1-yl, 4-C<sub>1-4</sub> alkylpiperazin-1-yl, dioxolanyl, C<sub>1-8</sub> alkylthio, arylthio, C<sub>1-4</sub> alkylsulphinyl, C<sub>1-4</sub> alkylsulphonyl, arylsulphonyl, arylsulphinyl, halogeno-C<sub>1-4</sub> alkyl, hydroxy-C<sub>1-4</sub> alkyl, C<sub>2-4</sub> alkanoyloxy-C<sub>1-4</sub> alkyl, C<sub>1-4</sub> alkoxy-C<sub>1-4</sub> alkyl, carboxy-C<sub>1-4</sub> alkyl, formyl-C<sub>1-4</sub> alkyl, C<sub>1-4</sub> alkoxycarbonyl-C<sub>1-4</sub>-alkyl, carbamoyl-C<sub>1-4</sub> alkyl, N-C<sub>1-4</sub> alkylcarbamoyl-C<sub>1-4</sub>alkyl, N,N-di-[C<sub>1-4</sub> alkyl]carbamoyl-C<sub>1-4</sub>alkyl, amino-C<sub>1-4</sub> alkyl, C<sub>1-4</sub> alkylamino-C<sub>1-4</sub> alkyl, di-[C<sub>1-4</sub> alkyl]amino-C<sub>1-4</sub> alkyl, phenyl-C<sub>1-4</sub> alkyl, 4-pyridon-1-yl-C<sub>1-4</sub> alkyl, pyrrolidin-1-yl-C<sub>1-4</sub> alkyl, imidazol-1-yl-C<sub>1-4</sub> alkyl, piperidino-C<sub>1-4</sub> alkyl, morpholino-C<sub>1-4</sub> alkyl, thiomorpholino-C<sub>1-4</sub> alkyl, thiomorpholino-1-oxide-C<sub>1-4</sub>alkyl, thiomorpholino-1,1-dioxide-C<sub>1-4</sub>alkyl, piperazin-1-yl-C<sub>1-4</sub>alkyl, 4-C<sub>1-4</sub> alkylpiperazin-1-yl-C<sub>1-4</sub> alkyl, hydroxy-C<sub>2-4</sub> alkoxy-C<sub>1-4</sub> alkyl, C<sub>1-4</sub> alkoxy-C<sub>2-4</sub> alkoxy-C<sub>1-4</sub> alkyl, hydroxy-C<sub>2-4</sub> alkylamino-C<sub>1-4</sub> alkyl, C<sub>1-4</sub> alkoxy-C<sub>2-4</sub> alkylamino-C<sub>1-4</sub> alkyl, C<sub>1-4</sub> alkylthio-C<sub>1-4</sub> alkyl, C<sub>1-4</sub> alkylsulphinyl-C<sub>1-4</sub> alkyl, C<sub>1-4</sub> alkylsulphonyl-C<sub>1-4</sub> alkyl, hydroxy-C<sub>2-4</sub> alkylthio-C<sub>1-4</sub> alkyl, C<sub>1-4</sub> alkoxy-C<sub>2-4</sub> alkylthio-C<sub>1-4</sub> alkyl, phenoxy-C<sub>1-4</sub> alkyl, anilino-C<sub>1-4</sub> alkyl, phenylthio-C<sub>1-4</sub> alkyl, cyano-C<sub>1-4</sub> alkyl, halogeno-C<sub>2-4</sub> alkoxy, hydroxy-C<sub>2-4</sub> alkoxy, C<sub>2-4</sub> alkanoyloxy-C<sub>2-4</sub> alkoxy, C<sub>1-4</sub> alkoxy-C<sub>2-4</sub> alkoxy, carboxy-C<sub>1-4</sub> alkoxy, formyl-C<sub>1-4</sub> alkoxy, C<sub>1-4</sub> alkoxycarbonyl-C<sub>1-4</sub> alkoxy, carbamoyl-C<sub>1-4</sub> alkoxy, N-C<sub>1-4</sub> alkylcarbamoyl-C<sub>1-4</sub> alkoxy, N,N-di-[C<sub>1-4</sub> alkyl]carbamoyl-C<sub>1-4</sub> alkoxy, amino-C<sub>2-4</sub> alkoxy, C<sub>1-4</sub> alkylamino-C<sub>2-4</sub> alkoxy, di-[C<sub>1-4</sub> alkyl]amino-C<sub>2-4</sub> alkoxy, di-[C<sub>1-4</sub> alkyl-C<sub>2-4</sub> alkoxy]amino-C<sub>2-4</sub> alkoxy, C<sub>2-4</sub> alkanoyloxy, hydroxy-C<sub>2-4</sub> alkanoyloxy, C<sub>1-4</sub>alkoxy-C<sub>2-4</sub> alkanoyloxy, phenyl-C<sub>1-4</sub> alkoxy, phenoxy-C<sub>2-4</sub> alkoxy, anilino-C<sub>2-4</sub> alkoxy, phenylthio-C<sub>2-4</sub> alkoxy, 4-pyridon-1-yl-C<sub>2-4</sub> alkoxy, piperidino-C<sub>2-4</sub> alkoxy, morpholino-C<sub>2-4</sub> alkoxy,



heterocyclic ring may optionally have one or two oxo or thioxo substituents on said ring;

or  $R^3$  represents a group selected from  $M^1-M^2-M^3-M^4$ ,  $M^1-M^5$  or  $M^1-M^2-M^{3'}-M^6$  wherein

$M^1$  represents a  $C_{1-4}$  alkyl group, wherein optionally a  $CH_2$  group is replaced by a CO group;

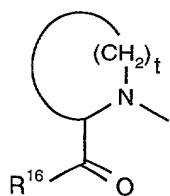
$M^2$  represents  $NR^{12}$  or  $CR^{12}R^{13}$ , in which  $R^{12}$  and  $R^{13}$  each independently represent H or  $C_{1-4}$  alkyl;

$M^3$  represents a  $C_{1-4}$  alkyl group;

$M^{3'}$  represents a  $C_{1-4}$  alkyl group or is absent;

$M^4$  represents  $CN$ ,  $NR^{12}S(O)_mR^{13}$ ,  $S(O)_mNR^{14}R^{15}$ ,  $CONR^{14}R^{15}$ ,  $S(O)_mR^{13}$  or  $CO_2R^{13}$ , in which  $R^{12}$ ,  $R^{13}$  and  $m$  are as defined above and  $R^{14}$  and  $R^{15}$  each independently represent H or  $C_{1-4}$  alkyl, or  $R^{14}$  and  $R^{15}$  together with the nitrogen atom to which they are attached form a 5- or 6-membered ring optionally containing 1 or 2 additional heteroatoms selected from N, O or  $S(O)_m$  in which ring any nitrogen atom present may optionally be substituted with a  $C_{1-4}$  alkyl group, and which ring may optionally have one or two oxo or thioxo substituents;

$M^5$  represents the group  $NR^{14}R^{15}$ , wherein  $R^{14}$  and  $R^{15}$  are as defined above, or  $M^5$  represents the group



in which  $t$  represents 2 to 4 and  $R^{16}$  represents OH,  $OC_{1-4}$  alkyl or  $NR^{14}R^{15}$ ; and

$M^6$  represents a  $C_{3-6}$  cycloalkyl group, the group  $NR^{14}R^{15}$ , wherein  $R^{14}$  and  $R^{15}$  are as defined above, or a 5- or 6-membered heterocyclic ring system containing 1 to 4 heteroatoms selected from N, O or S;

and  $p$  is 0 to 3; or when  $p$  is 2 or 3, two adjacent  $R^3$  groups together form an optionally substituted methylenedioxy or ethylenedioxy group;

$R^2$  is selected from the group consisting of hydrogen, halogen, trifluoromethyl,  $C_{1-4}$  alkyl and  $C_{1-4}$  alkoxy;

U represents phenyl or a 5 to 10-membered mono or bicyclic ring system in which one or more of the carbon atoms is optionally replaced by a heteroatom independently selected from N, O and  $S(O)_m$ , wherein m is 0, 1 or 2, and wherein U is substituted by at least one independently selected  $R^6$  group and U is optionally substituted by at least one independently selected  $R^4$  group;

each  $R^4$  is independently hydrogen, hydroxy, halogen,  $C_{1-4}$  alkyl,  $C_{1-4}$  alkoxy,  $C_{1-4}$  alkylamino, di- $[C_{1-4}$  alkyl]amino,  $C_{1-4}$  alkylthio,  $C_{1-4}$  alkylsulphinyl,  $C_{1-4}$  alkylsulphonyl,  $C_{1-4}$  alkylcarbonyl,  $C_{1-4}$  alkylcarbamoyl, di- $[C_{1-4}$  alkyl] carbamoyl, carbamyl,  $C_{1-4}$  alkoxy carbonyl, cyano, nitro or trifluoromethyl;

each  $R^6$  is independently a group  $ZR^7$  wherein Z is joined to  $R^7$  through a  $(CH_2)_p$  group in which p is 0, 1 or 2 and Z represents a group  $V(CH_2)$ ,  $V(CF_2)$ ,  $(CH_2)V$ ,  $(CF_2)V$ ,  $V(CRR')$ ,  $V(CHR)$  or V where R and R' are each  $C_{1-4}$  alkyl and in which V is a hydrocarbonyl group containing 0, 1 or 2 carbon atoms, carbonyl, dicarbonyl,  $CH(OH)$ ,  $CH(CN)$ , sulphonamide, amide, O,  $S(O)_m$  or  $NR^b$  where  $R^b$  is hydrogen or  $R^b$  is  $C_{1-4}$  alkyl; and  $R^7$  is an optionally substituted  $C_{3-6}$  cycloalkyl; or an optionally substituted 5, 6, 7, 8, 9 or 10-membered carbocyclic or heterocyclic moiety;

or  $R^6$  is a group  $ZR^7$  in which Z is  $NR^b$ , and  $NR^b$  and  $R^7$  together form an optionally substituted 5, 6, 7, 8, 9 or 10-membered carbocyclic or heterocyclic moiety.

2. A method as claimed in claim 1, wherein the susceptible cancer is a susceptible breast cancer.
3. A method as claimed in claim 1, wherein the susceptible cancer is a susceptible non-small cell lung cancer.
4. A method as claimed in claim 1, wherein the susceptible cancer is a susceptible ovarian cancer.
5. A method as claimed in claim 1, wherein the susceptible cancer is a susceptible stomach cancer.
6. A method as claimed in claim 1, wherein the susceptible cancer is a susceptible pancreatic cancer.
7. A method as claimed in claim 1, wherein the susceptible cancer is a susceptible head and neck cancer.
8. A method as claimed in claim 1, wherein the susceptible cancer is a susceptible cancer characterized by expression or over-expression of EGFR.
9. A method as claimed in claim 1, wherein the susceptible cancer is a susceptible cancer characterized by expression or over-expression of erbB-2.
10. A method as claimed in claim 1, wherein the susceptible cancer is a susceptible cancer characterized by expression